

CLAIMS

1. In a communication system, a method comprising:
 - 2 transmitting a power control information packet formed from a plurality
 - 4 of power control bits from a base station to one or more mobile stations of a
 - 6 plurality of mobile stations, wherein each of the power control bits in the power
 - 8 control information packet has a position that is mapped to a selected access
 - channel and to a time offset within the selected access channel;
 - controlling a transmission of signals from said one or more mobile
 - stations to a base station on a plurality of M multiple access channels.
2. The method as recited in claim 1 further comprising:
 - 2 receiving the power control information packet at a first mobile station.
3. The method as recited in claim 1 further comprising:
 - 2 transmitting a message from the first mobile station to the base station on
 - 4 a first access channel and at a first time offset associated with the first access
 - 6 channel, wherein said message is transmitted from the first mobile station at a
 - 8 power level determined in response to a first power control bit in the power
 - control information packet, the first power control bit is located in a first
 - position in the power control information packet, and the first position is
 - mapped to the first access channel and the first time offset.
4. In a communication system, a method comprising:
 - 2 transmitting a power control information packet formed from a plurality
 - 4 of power control bits from a base station to one or more mobile stations of a
 - plurality of mobile stations, wherein each of the power control bits in the power

control information packet has a position that is mapped to a selected access
6 channel;

controlling the transmission of signals from a first and second mobile
8 stations of said plurality of mobile stations to a base station on a plurality of M
multiple access channels.

5. The method as recited in claim 4 further comprising:

2 receiving the power control information packet at said first mobile
station and said second mobile station.

6. The method as recited in claim 5 further comprising:

2 simultaneously transmitting messages from the first mobile station and
the second mobile station to the base station on a first access channel, wherein
4 the messages from the first and second mobile stations are transmitted on the
first access channel at power levels that are determined in response to only a
6 first power control bit in the power control information packet, wherein the first
power control bit is located in a first position in the power control information
8 packet, and the first position is mapped to the first access channel.

7. In a communication system, a method comprising:

2 transmitting a power control information packet formed from a plurality
of power control bits from a base station to one or more mobile stations of a
4 plurality of mobile stations, wherein the power control bits in the power control

information packet are transmitted using a modulation that permits each of the
6 power control bits to assume one of first, second and third different states;

controlling a transmission of signals from one or more of said plurality of
8 mobile stations to a base station on one or more of a plurality of multiple access
channels.

8. The method as recited in claim 7 further comprising

2 receiving the power control information packet at a first mobile station;

identifying, at the first mobile station, a state of a first power control bit
4 associated with a first access channel.

9. The method as recited in claim 8 further comprising:

2 performing one of first, second or third operations with said first mobile
station if said state of said first power control bit corresponds to said first state;

4 wherein said first operation corresponds to initiating the transmission of
message information from the first mobile station to the base station on the first
6 access channel, the second operation corresponds to inhibiting the initiation of
transmission of message information from the first mobile station to the base
8 station on the first access channel; and the third operation corresponds to
ceasing the transmission of message information from the first mobile station to
10 the base station on the first access channel.

10. The method as recited in claim 9 further comprising:

2 increasing an output power level of the first mobile station on the first
access channel if the state of the first power control bit corresponds to said
4 second state;

 decreasing the output power level of the first mobile station on the first
6 access channel if the state of the first power control bit corresponds to said third
state.

11. In a communication system, a method comprising:

2 transmitting a first power control information packet including at least
one power control bit from a first base station associated with a first cell to a
4 mobile radio unit, wherein the at least one power control bit from the first base
station is transmitted at a first time interval that corresponds to a first access
6 channel;

 performing an access channel handoff for the mobile radio unit as the
8 mobile radio unit moves from the first cell to a second cell of cells.

12. The method as recited in claim 11 further comprising:

2 transmitting a second power control information packet including at
least one power control bit from a second base station associated with the
4 second cell to the mobile radio unit, wherein the at least one power control bit
from the second base station is associated with the first access channel and with
6 the second base station, wherein each of the power control bits in the first and
second power control information packets have a position that is mapped to a
8 selected access channel and to a base station associated with the selected access
channel.

13. The method as recited in claim 12 further comprising:

2 receiving at the mobile radio unit the first and second power control
information packets, determining a state of the at least one power control bit
4 from the first base station and a state of the at least one power control bit from
the second base station, and determining an output power adjustment level in
6 response to the state of the at least one power control bit from the first base
station and the state of the at least one power control bit from the second base
8 station.

14. The method as recited in claim 13 further comprising:

2 transmitting a message from the mobile radio unit to the first base
station and the second base station on the first access channel during the
4 handoff, wherein said message is transmitted from the mobile radio unit in
accordance with the determined output power adjustment level.

15. In a communication system, an apparatus comprising:

2 a base station transmitter configured for transmitting a power control
information packet formed from a plurality of power control bits from the base
4 station to one or more mobile stations, wherein each of the power control bits in
the power control information packet has a position that is mapped to a
6 selected access channel and to a time offset within the selected access channel;

a receiver at a first mobile station configured for receiving the power
8 control information packet.

16. The apparatus as recited in claim 15 further comprising:

2 a transmitter at the first mobile station, wherein the transmitter at the
first mobile station is configured for transmitting a message from the first
4 mobile station to the base station on a first access channel and at a first time
offset associated with the first access channel, wherein said message is
6 transmitted from the first mobile station at a power level.

17. The apparatus as recited in claim 15 further comprising:

2 a controller at the first mobile station configured for determining said
power level in response to a first power control bit in the power control
4 information packet, the first power control bit being located in a first position in
the power control information packet, and the first position being mapped to
6 the first access channel and the first time offset.

18. In a mobile radio telephone system having a plurality of cells, each of the
2 cells having at least one base station transmitter associated therewith, an
apparatus for performing an access channel handoff for a mobile radio unit as
4 the mobile radio unit moves from a first of said cells to a second of said cells,
comprising:

6 a first base station transmitter configured for transmitting a first power
control information packet including at least one power control bit from a first
8 base station associated with the first cell to the mobile radio unit, wherein the at
least one power control bit from the first base station is transmitted at a first
10 time interval that corresponds to a first access channel;

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a second base station transmitter that transmits a second power control information packet including at least one power control bit from a second base station associated with the second cell to the mobile radio unit, wherein the at least one power control bit from the second base station is associated with the first access channel and with the second base station, wherein each of the power control bits in the first and second power control information packets have a position that is mapped to a selected access channel and to a base station associated with the selected access channel.

19. The apparatus as recited in claim 18 further comprising:

2 a receiver at the mobile radio unit configured for receiving the first and second power control information packets.

20. The apparatus as recited in claim 18 further comprising:

2 a controller at the mobile radio unit configured for determining a state of the at least one power control bit from the first base station, a state of the at least one power control bit from the second base station, the controller also determining an output power adjustment level in response to the state of the at least one power control bit from the first base station and the state of the at least one power control bit from the second base station.

21. The apparatus as recited in claim 18 further comprising:

2 a transmitter in the mobile radio unit configured for transmitting a message from the mobile radio unit to the first base station and the second base

- 4 station on the first access channel during the handoff, wherein said message is transmitted from the mobile radio unit in accordance with the output power
- 6 adjustment level determined by the controller.